

Abstract

A novel structure is provided to improve the operating stability of thioaluminate based phosphors used in ac thick film dielectric electroluminescent displays. The novel structure comprises a rare earth activated alkaline earth thioaluminate phosphor thin film layer and a silicon oxynitride layer provided directly adjacent the top and/or bottom of the phosphor thin film layer, wherein said silicon oxynitride layer comprises a composition of $\text{Si}_3\text{N}_x\text{O}_y\text{H}_z$ where $2 \leq x \leq 4$, $0 < y \leq 2$ and $0 \leq z \leq 1$. The invention is particularly applicable to phosphors used in electroluminescent displays that employ thick dielectric layers subject to high processing temperatures to form and activate the phosphor films.